

AMENDMENTS TO THE DRAWINGS:

Please replace Figures 1 and 2 with the attached replacement drawing sheet. Figures 1 and 2 have been amended per the legend "Prior Art".

Attachment: Replacement Sheet

**REMARKS**

The Examiner is thanked for the due consideration given the application. The specification has been amended to insert headings. A substitute drawing figure has been provided.

Claims 10-28 are pending in the application. The acknowledgement of the allowability of 12-14, 16 and 18-21 is noted with appreciation. Claims 10-21 have been amended to improve the language in a non-narrowing fashion. Claims 22-28 are newly presented and generally correspond to the allowable subject matter in the previous claims.

No new matter is believed to be added to the application by this amendment.

**The Drawings**

Figures 1 and 2 are objected to as not containing a legend. A substitute drawing figure has been provided in which Figures 1 and 2 have been labeled "Prior Art."

**Rejection Under 35 USC §112, Second Paragraph**

Claim 10 has been rejected under 35 USC §112, second paragraph as being indefinite. This rejection is respectfully traversed.

The Official Action asserts that claim 10 contains language that set forth a broad range or limitation together with a narrow range or limitation. However, claim 10 has been amended to remove the language in question. Claim 10 is thus clear, definite and has full antecedent basis.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Rejection Over TEPPER et al.

Claims 10, 15 and 17 have been rejected under 35 USC §102(b) as being anticipated by TEPPER et al. (U.S. Patent 5,290,330). This rejection is respectfully traversed.

The present invention pertains to a filter body formed by bonding porous ceramic honeycomb filter units that is illustrated, by way of example, in Figure 3 of the application, which is reproduced below.

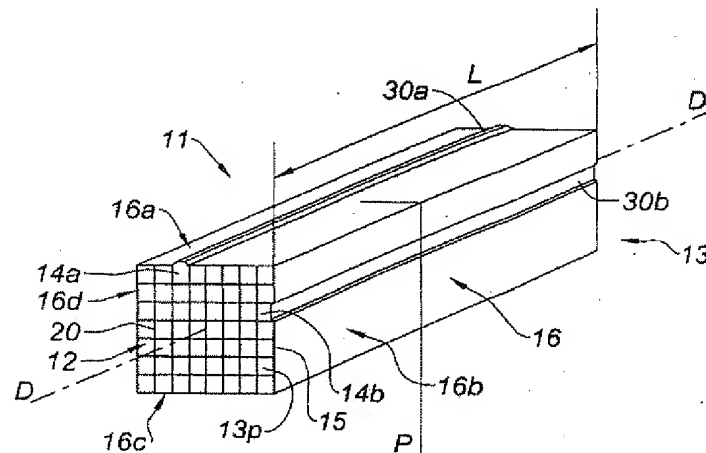
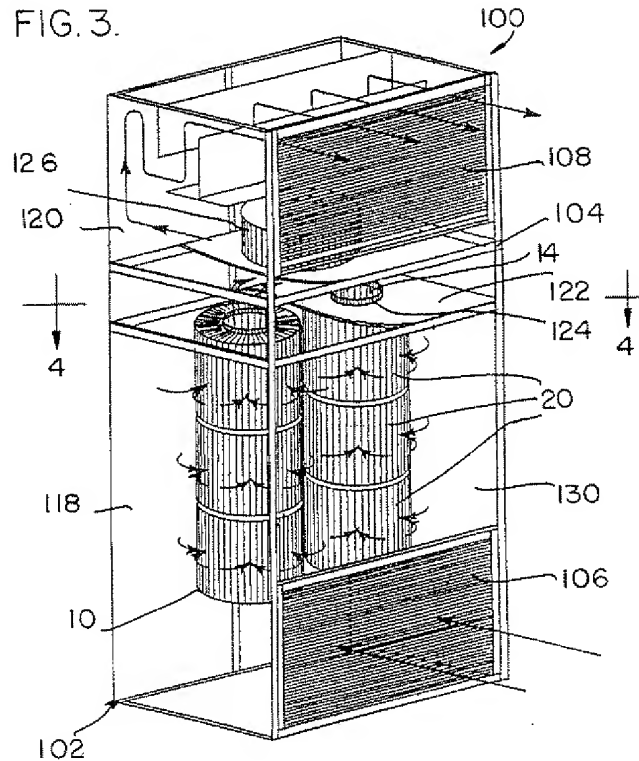


Fig. 3

Claim 1 of the present invention recites a: "filter body formed by bonding porous ceramic honeycomb filter units by means of a joint (17), said filter units comprising passages which are alternately blocked at the upstream face to form outlet passages or at the downstream face to form inlet passages."

TEPPER et al. pertain to a HEPA filtration system. The Official Action refers to Figures 1-3 of TEPPER et al. Figure 3 of TEPPER et al. is reproduced below.



That is, TEPPER et al. relate to a device for filtering air for use in hospital rooms or laboratories, scientific research rooms or even office buildings (column 1, lines 10 and 23 to 27). This technical field is fundamentally different than the filtration of the particles which are contained in the exhaust gases of an internal combustion engine. Indeed, the temperature of the exhaust gases is much higher.

Also, there is no need for a regular regeneration of the filter, which, as explained at page 2, lines 6 to 10 of the specification of the present invention, includes oxidizing the soot by heating it at the temperature at which it can ignite, usually at temperatures above 500 °C.

In addition, regenerations imply large variations of temperatures (thermal shocks). In the application of TEPPER et al., there is therefore no need for ceramic filter units. Further, these filters of TEPPER et al. are intended to be regularly replaced. That is why folded paper-like material is used, and not **ceramic honeycomb** filter units comprising **alternately blocked outlet and inlet passages**.

In practice, it is likely that using honeycomb porous ceramic filter units in the application of TEPPER et al. would not make much sense.

TEPPER et al. thus fail to teach each and every limitation of claim 10 of the present invention. TEPPER et al. thus fail to anticipate claim 10 of the present invention. Claims depending upon claim 10 are patentable for at least the above reasons.

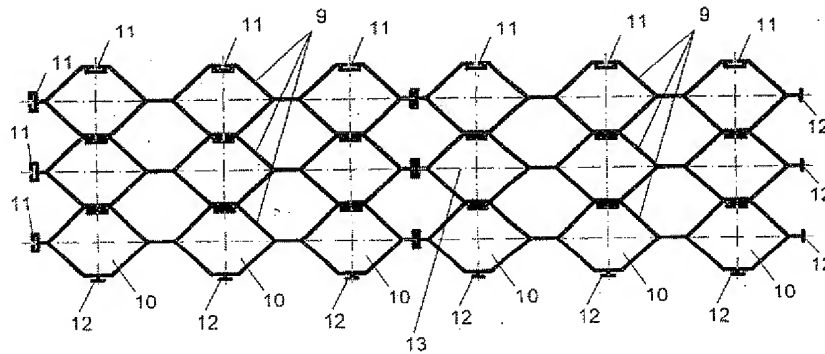
This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Rejection Over DE '194

Claims 10 and 17 have been rejected under 35 USC §102(b) as being anticipated by DE '194 (DE 299 12 194 U1). This rejection is respectfully traversed.

DE 299 12 194 relates to an "honeycomb battery" to remove sedimentary residues from waste water. The Official Action refers to Figures 1-3 of DE '194. Figure 3 of DE '194 is reproduced below.

Fig. 3



In DE '194, waste water crosses the filter unit from the upstream face to the downstream face, but the passages of the filter units **are not alternately blocked** at the upstream face and at the downstream face. Water penetrates into the upstream opening of a channel and goes out of this channel through its downstream opening. This means that there is no filtration through the walls separating adjacent channels. The filtering

units only act as a decanter. The filter units are therefore not porous.

On the contrary, DR '194 recommends using polypropylene and polyethylene, which are not porous, but dense. In addition, it is likely that a porous material would be less efficient than a dense material as far as decantation is concerned since it would tend to get clogged. DE '194 therefore teaches away from porous materials

Besides, DE '194 only discusses that the material of the filter units is chemically resistant and allows cleaning with hot water (at about 80 °C). This kind of temperature is much lower than the temperature when filtering exhaust gases of internal combustion engines, as explained previously. In fact, '194 recommends using polypropylene or polyethylene **which are not ceramic materials** and which will not resist to a regeneration at the temperature at which the soot can ignite.

DE '194 thus fails to teach using ceramic material.

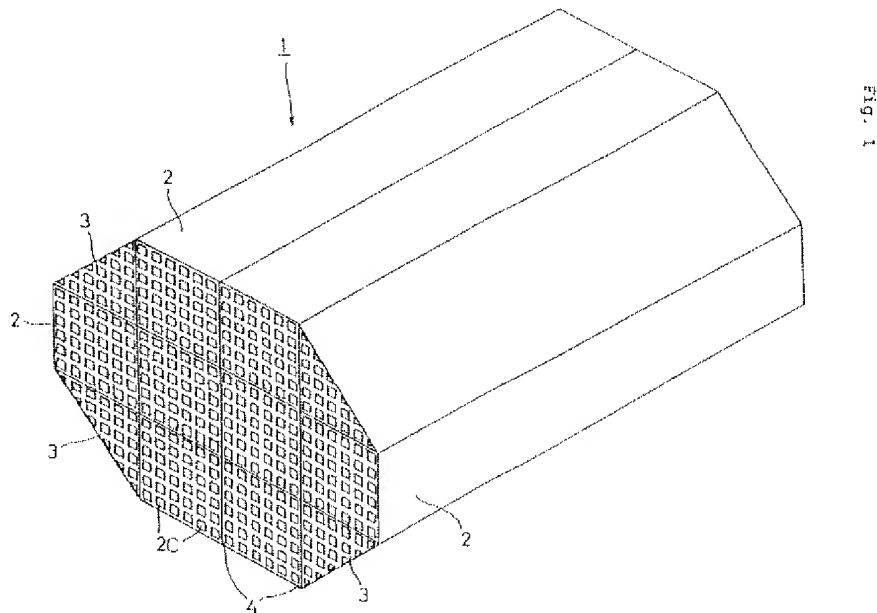
DE '194 thus fails to teach each and every limitation of claim 10 of the present invention. DE '194 thus fails to anticipate claim 10 of the present invention. Claims depending upon claim 10 are patentable for at least the above reasons.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Rejection Over NARUSE et al., DE '194 and GESING et al.

Claims 10, 11, 15 and 17 have been rejected under 35 USC §103(a) as being unpatentable over NARUSE et al. (U.S. Patent 5,914,187) in view of DE '194 or GESING et al. (U.S. Patent 4,443,313). This rejection is respectfully traversed.

NARUSE et al. pertain to a ceramic structural body. The Official Action refers to Figures 1 and 2 of NARUSE et al. Figure 1 of NARUSE et al. is reproduced below.



The Official Action acknowledges that NARUSE et al. fail to disclose an exterior surface of a first of the unit is face to face with a second of the units and in contact with the joint include at least one irregularity of the boss and/or recess



type. The Official Action refers to the secondary references for these teachings.

GESING et al. relate to electrolytic reduction cells. GESING et al. describe ceramic honeycomb elements which are shaped to interlock with each other. These elements are intended to permit outflow of molten metal but to restrain flow of molten electrolyte.

The filtration in GESING et al. is therefore not going through the walls of the passages, and, contrary to the filter body of claim 10, the passages ***must not be alternately blocked*** at the upstream face and at the downstream face. Besides, there is ***no need for the material of the passages to be porous***.

Further, in GESING et al., the honeycomb packing elements are made of titanium diboride ceramic, which cannot be used to make filter bodies for filtering exhaust gases of internal combustion engines. Indeed,  $TiB_2$  is too sensitive to oxidation for such an application.

In addition, the thermo-mechanical constraints, the corrosive environment, as well as the action of the medium to be filtered on the filter units are very different from the application of filtering exhaust gases of internal combustion engines.

The man skilled in the art thus has no motivation and is even taught away from combining NARUSE et al. with any of DE '194 or GESING et al.

Finally, claim 10 recites "by bonding porous ceramic honeycomb filter units by means of a joint." GESING et al. fails to teach such a joint. The same goes for DE '194 which, on the contrary, presents the absence of an adhesive between the filter units as advantageous.

One of ordinary skill and creativity would thus fail to produce a claimed embodiment of the present invention from a knowledge of NARUSE et al., DE '194 and GESING et al. A *prima facie* case of unpatentability has thus not been made.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

#### **Conclusion**

The Examiner is thanked for considering the Information Disclosure Statement January 13, 2006 and for making initial PTO-1449 former record in the application.

Prior art of record but not utilized is believed to be non-pertinent to the instant claims.

The objections and rejections believe them overcome obviated and rendered moot, and no issues remain. The Examiner is accordingly and respectfully requested to place the application in condition for allowance and to issue a notice of allowability.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Please charge the fee of \$660.00 for the extra independent claims added which is being paid online simultaneously herewith by credit card.

The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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